WHAT IS CLAIMED IS:

1. A process for the production of cured poly(glycidyl nitrate), said process comprising:

providing at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two;

optionally reacting the multi-functional alcohol initiator with a catalyst to form a catalyst-initiator complex;

reacting glycidyl nitrate with at least one member selected from the group consisting of the multi-functional alcohol initiator and the catalyst-initiator complex to form poly(glycidyl nitrate); and

crosslinking the poly(glycidyl nitrate) with at least one aromatic polyisocyanate having a functionality greater than two, the aromatic polyisocyanate having at least one aromatic ring and having, on average, more than two isocyanate moieties bonded directly to the aromatic ring.

2. A process according to claim 1, wherein the poly(glycidyl nitrate) has a functionality substantially equal in number to the hydroxyl functionality.

3. A process according to claim 1, wherein the multi-functional alcohol initiator comprises a liquid at room temperature.

4. A process according to claim 1, wherein the hydroxyl functionality of the multi-functional alcohol initiator is at least two.

5. A process according to claim 1, wherein the hydroxyl functionality of the multi-functional alcohol initiator is three.

6. A process according to claim 1, wherein the hydroxyl functionality of the multi-functional alcohol initiator is four.

7. A process according to claim 1, wherein the aromatic polyisocyanate has a functionality of at least 2.3.

8. A process according to claim 1, further comprising drying the catalyst-initiator complex.

9. A process according to claim 1, further comprising drying the catalyst-initiator complex with calcium hydride.

10. A process for the production of a cured energetic composition, said process comprising:

providing at least one multi-functional alcohol initiator having a hydroxyl functionality of at least two;

optionally reacting the multi-functional alcohol initiator with a catalyst to form a catalyst-initiator complex;

reacting glycidyl nitrate with at least one member selected from the group consisting of the multi-functional alcohol initiator and the catalyst-initiator complex to form poly(glycidyl nitrate);

preparing an energetic formulation comprising the poly(glycidyl nitrate); and

crosslinking the poly(glycidyl nitrate) with at least one aromatic polyisocyanate, the aromatic polyisocyanate having at least one aromatic ring and, on average, more than two isocyanate moieties bonded directly to the aromatic ring.

11. A process according to claim 10, wherein the poly(glycidyl nitráte) has a functionality substantially equal in number to the hydroxyl functionality.

12. A process according to claim 10, wherein the multi-functional alcohol initiator comprises a liquid at room temperature.

13. A process according to claim 10, wherein the hydroxyl functionality of the multi-functional alcohol initiator is two.

14. A process according to claim 10, wherein the hydroxyl functionality of the multi-functional alcohol initiator is three.

15. A process according to claim 10, wherein the hydroxyl functionality of the multi-functional alcohol initiator is four.

16. A process according to claim 10, wherein the aromatic polyisocyanate has a functionality of at least 2.3.

17. A process according to claim 10, further comprising drying the catalyst-initiator complex.

18. A process according to claim 10, further comprising drying the catalyst-initiator complex with calcium hydride.

19. A process according to claim 10, wherein the energetic formulation is a gun propellant comprising 15 weight percent to 40 weight percent of the poly(glycidyl nitrate) and plasticizer, up to 80 weight percent energetic filler, and 0.5 weight percent to 5 weight percent ballistic modifier.

20. A process according to claim 10, wherein the energetic formulation is a cast cure explosive comprising 5 weight percent to 20 weight percent of the poly(glycidyl nitrate), 0.5 weight percent to 3 weight percent of the aromatic polyisocyanate, and 20 weight percent to 80 weight percent oxidizer.

21. A process according to claim 10, wherein the energetic formulation is a minimum smoke propellant comprising 4 weight percent to 30 weight percent of the poly(glycidyl nitrate), 0.5 weight percent to 3 weight

percent of the aromatic polyisocyanate, 0.25 weight percent to 2 weight percent cure catalyst, 0 weight percent to 80 weight percent solid oxidizer, 0 to 50 weight percent energetic solid filler, and 0 to 30 weight percent plasticizer.

22. A process according to claim 10, wherein the energetic formulation is a rocket motor propellant, and wherein at least 3 weight percent of the energetic formulation consists of at least one member selected from the group consisting of aluminum and aluminum oxide.

23. A process according to claim 10, wherein the energetic formulation further comprises at least one metal selected from the group consisting of aluminum, magnesium, boron, titanium, and zirconium.